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EGG VARIATION IN A TREMATODE SPECIES

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In 1903 H. B. Ward (1903a) called attention to the importance of the eggs in determining human entozoa. Later the same writer in a paper devoted entirely to the eggs of human parasites (Ward, 1908) emphasizes his earlier view and on page 180 comes to the following conclusion in regard to recorded observations of egg size: "The very existence of marked variation [in egg size] in the records of a single form is presumptive evidence that in the absence of errors of observation, two or more species are confused under the single appellation."

In all of Looss' extensive work on the trematodes he uses the size of eggs as a character of specific value, and Lühe (1909) in his summary of the fresh-water trematodes of Germany gives the egg size in his account of almost every species. These and other workers on trematodes have generally recognized the importance of determining the limits of variation and the average size of ripe, normal eggs among trematode species. On that account the following record of a considerable variation from the species average in the size of the eggs from three individuals of one of the common frog lung flukes seems worthy of note.

Recently while working on the anatomy of *Pneumonoeces similiplexus* Stafford from the lung of the leopard frog *Rana pipiens* more than two hundred eggs from ten different individuals were measured to determine accurately the average egg size for the species. The average length of the eggs for this species as computed from these measurements was found to be 37.6 μ, and the range of variation showed a minimum of 34 μ and a maximum of 40 μ. Later, while examining three good-sized specimens of the same species from a single frog from Oshkosh, Wisconsin, I was struck by the fact that the eggs appeared smaller than in the forms previously examined. Measurements of two hundred eggs from these individuals confirmed this opinion, since the average egg length was found to be only 34.2 μ and the limits of variation from 30 to 37.4 μ. This gives a difference between the Oshkosh flukes and the normal egg average length of the species *Pneumonoeces similiplexus* of 3.4 μ, or a greater difference than is found between two distinct species of this same genus, viz., *Pneumonoeces breviplexus,* with an average egg length of 22.5 μ, and *Pneumonoeces longiplexus,* with an average of 24.8 μ. A study of the three individuals with the egg variation showed that in the rest of the characters used for specific diagnosis they agreed with my other specimens of *Pneumonoeces similiplexus*. This observation shows that a distinct variation may occur within a species in a character which has proved to be generally constant.

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